

WSC 2010-2011, Conference 7, Case 1.

Tissue from a dog.

MICROSCOPIC DESCRIPTION: Colon **(2 pt.)**. (There is also a section of ileum, which is not described.) The colonic submucosa is markedly expanded **(1 pt.)**, and lymphoid tissue is effaced by an infiltrate of large numbers of macrophages **(1 pt.)** which range up to 40 um in diameter, and have abundant vacuolated to granular brightly eosinophilic cytoplasm which occasionally compresses the nucleus to the periphery of the cells **(2 pt.)** Rarely, macrophage cytoplasm contains a single large clear vacuole (signet ring cell). These cells are mixed with numerous neutrophils **(1 pt.)**, plasma cells **(2 pt.)**, and lesser numbers of lymphocytes, and cellular debris. This infiltrate extends through the muscularis mucosae into the lamina propria **(2 pt.)**, and multifocally into the tunica muscularis **(1 pt.)**, where it dissects between muscle bundles. In the overlying mucosa, the infiltrate separates, surrounds, and replaces glands **(1 pt.)**, and occasionally, glands are expanded by degenerate epithelium, macrophages, and mucus, and cellular debris. The superficial mucosa is eroded **(1 pt.)** and multifocally replaced by degenerate epithelial cells, cell debris, and abundant robust bacilli, which occasionally are present within superficial glands as well as in macrophages. Small numbers of plasma cells, lymphocytes, and histiocytes surround vessels between muscle layers in the tunica muscularis.

MORPHOLOGIC DIAGNOSIS: Colon: Colitis, histiocytic and lymphoplasmacytic, mucosal and submucosal, diffuse, severe. **(2 pt.)**

NAME THE DISEASE: Boxer colitis **(3pt.)**

O/C: **(1 pt.)**

WSC 2010-2011. Conference 7, Case 2

Tissue from a dolphin.

MICROSCOPIC DESCRIPTION: Stomach: Within a focally extensive area, the gastric wall is thickened by two distinct inflammatory populations. Markedly expanding and effacing the ulcerated gastric mucosa, there are innumerable macrophages **(1 pt.)** admixed with fewer neutrophils, lymphocytes, and plasma cells which transmigrate the muscularis mucosae and extend into the submucosa in small numbers **(1 pt.)**. These macrophages measure up to 15um in diameter, and contain multiple intracytoplasmic 2-4um irregularly round basophilic yeasts with a clear halo **(2 pt.)**, which often peripheralize and compress the nucleus to the edge of the cell. The infiltrate obscures pre-existent structures with the exception of blood vessels with prominent reactive nuclei and plump fibroblasts. Primarily within the markedly thickened submucosa **(1 pt.)** but multifocally infiltrating the tunica muscularis and serosa **(1 pt.)**, there are large numbers of viable and degenerate neutrophils **(1 pt.)**, admixed with lesser numbers of macrophages (some as previously described), lymphocytes, and plasma cells, abundant edema **(1 pt.)**, fibrin **(1 pt.)**, hemorrhage, and cellular debris. Scattered throughout this infiltrate, and often present within the cytoplasm of neutrophils, are large numbers of 2-4um rod-shaped bacilli **(1 pt.)**. The serosa is moderately thickened, and contains numerous plump fibroblasts, and covered by a dense layer of fibrin, degenerate neutrophils, bacteria, and cellular debris **(1 pt.)**.

MORPHOLOGIC DIAGNOSIS: 1. Stomach: Gastritis, histiocytic and ulcerative, focally extensive, severe with numerous intrahistiocytic yeasts. **(2 pt.)**

2. Stomach: Gastritis, fibrinosuppurative, transmural, focally extensive, with innumerable rod-shaped bacteria. **(2 pt.)**

CAUSE: *H. capsulatum* or *Candida species* (either OK) **(2 pt.)** and gram-negative bacteria **(2 pt.)**

WSC 2010-2011, Conference 7, Case 3.

Tissue from a cat.

MICROSCOPIC DESCRIPTION: Lung: Approximately 80% of alveoli in this section are filled with round cells **(2pt.)** with indistinct cell borders, and a moderate amount of granular eosinophilic cytoplasm **(1pt.)**. Nuclei are irregularly round and hyperchromatic **(1pt.)**, and have a tendency to stream **(1pt.)**. Throughout most of the section, these cells are admixed with abundant edema **(2pt.)** and small amounts of fibrin, and in some alveoli are admixed with variable combinations and concentrations alveolar macrophages, neutrophils and cellular debris. **(1pt.)** Alveoli without these cells are often expanded simply by edema fluid with or without foamy alveolar macrophages. **(1pt.)** At the edges of the section, low numbers of alveoli are emphysematous. Alveolar walls are markedly expanded **(1pt.)** by congestion, edema, and in some areas, small amounts of fibrous connective tissue **(1pt.)** and/or type II pneumocyte hyperplasia **(2pt.)**. Airways are often filled with edema fluid and sloughed round cells as previously described, **(1pt.)** there is mild to moderate proliferation of bronchiolar smooth muscle. **(1pt.)** There is mild to moderate hyperplasia of peribronchiolar lymphoid tissue **(1pt.)**, and aggregates of moderate numbers of lymphocytes and lesser plasma cells are scattered throughout the section. The pleura is mildly edematous, with dilated lymphatics and low numbers of lymphocytes and plasma cells scattered throughout.

MORPHOLOGIC DIAGNOSIS:

Lung: Histiocytosis, intra-alveolar, chronic, diffuse, severe, with marked edema, Type II pneumocyte hyperplasia and bronchiolar smooth muscle hyperplasia **(3 pts)**

NAME THE CONDITION: Pulmonary Langerhans cell histiocytosis **(2 pts)**

O/C - (1pt.)

WSC 2010-2011, Conference 7, Case 4.

Tissue from a dog from Southern Brazil. (Great entity, but not really a good descriptive slide.)

MICROSCOPIC DESCRIPTION:

Spleen: Diffusely, the splenic red pulp is infiltrated with large numbers of plasma cells **(2 pt)** (up to 30% in some areas and the white pulp is diminished. Scattered throughout the red pulp, there are aggregates of low to moderate numbers of macrophages **(1 pt)**, as well as low to moderate numbers of hemosiderin-laden macrophages **(1 pt)**. Scattered throughout the section in areas of white pulp, are multifocal areas of necrosis **(1 pt)** containing moderate amounts of eosinophilic cellular debris, moderate numbers of histiocytes, hemorrhage, and small amounts of fibrin. **(1 pt)** Rarely the cytoplasm of capillary endothelium is expanded by numerous 2µm protozoal zoites. **(2 pt)**

Heart: Diffusely, low to moderate numbers of plasma cells **(1 pt)** and lesser numbers of macrophages and lymphocytes are scattered throughout the mildly edematous **(1 pt)** myocardial interstitium. Capillary endothelium is often swollen by large aggregates of intracytoplasmic round 2µm apicomplexan zoites **(2 pt)**. Multifocally, mild degenerative changes **(1 pt)** (myofiber hyalinization) are present, as well as small amounts of interstitial hemorrhage.

MORPHOLOGIC DIAGNOSIS: Spleen: Plasmacytosis, diffuse, moderate, with multifocal reticuloendothelial hyperplasia, white pulp necrosis, and numerous intraendothelial apicomplexan zoites. **(3 pt)**

Heart: Myocarditis, plasmacytic, diffuse, mild, with mild myocardial degeneration and numerous intraendothelial apicomplexan zoites. **(2 pt)**

CAUSE: *Rangelia vitali* **(1 pt)**

O/C - (1 pt)